REMARKS

In the Office Action, the Examiner rejected Claims 1, 9 and 17 under 35 U.S.C. 102 as being fully anticipated by U.S. Patent 6,178,529 (Short, et al.), and under 35 U.S.C. 112 second paragraph, as being indefinite.

Claims 1, 9 and 17 are being cancelled, and new Claims 21-26 are being added. Claims 21, 25 and 26 are independent claims, and Claims 22-24 are dependent from Claim 21.

Also, Claims 2-8, 10-16, 18 and 19 are being cancelled. These claims were withdrawn from consideration in this application in response to a Restriction Requirement. Applicants expressly reserve the right to file one or more divisional applications for Claims 2-8, 19-16, 18 and 19.

In preparing new Claims 21-26, a special effort has been made to take into account the Examiner's rejection of Claims 1, 9 and 17 under 35 U.S.C. 112. More specifically, the Examiner objected to the description in these claims of separating the constraints and policies into groups, and to the term "semi-static."

In accordance with the present invention, constraints and policies are separated into two groups. The constraints and policies that do not change or that occasionally change are placed in a first group, and the dynamically changing constraints and policies are placed in a second group. It is believed that the new independent claims clearly describe this separation of, among other things, the constraints and policies. Also, the term "semi-static" is not used in the new claims.

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Moreover, new Claims 21-26 also patentably distinguish over the prior art and are allowable. Generally, these claims are allowable because the prior art does not disclose or suggest building a globally optimal configuration of a cluster of network resources, in the manner described in independent Claims 21, 25 and 26.

This invention, generally, relates to decision support systems designed for managing applications and resources using rule-based constraints. Previous systems of this general type require a large amount of human intervention. Because of this, these previous systems are expensive, prone to error, and are non-scalable beyond a certain size. One important reason for this is that these conventional approaches use a static resource-centric view, in which the physical resources in a cluster of resources are considered to be static entities that are either available or not available and are managed using predetermined strategies.

As explained in detail in the present application, this invention takes an approach that is different from these traditional resource management approaches. More specifically, in accordance with the instant invention, resources are considered as services whose availability and quality of service depends on the availability and the quality of service provided by one or more other services in the cluster. For this reason, the cluster and its resources can be represented by two dimensions or groups.

One dimension captures the static or occasionally changing resources, such as the type and quality of the supporting services needed to enable its services. The second dimension is the dynamic state of the various services provided by the cluster. These dynamic changes are captured by events. The present invention, by separating the dynamic part (the events) from other parts (the rules), and combining these in a systematic manner only when needed, achieves a desired level of automation in the coordination and mapping of resources and services.

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Short, et al, the only reference relied on by the Examiner to reject the claims, describes a method and system to facilitate the control and monitoring of disparate resources. In the procedure disclosed in Short, et al, a resource component is connected to a resource object for management of that object, and a resource monitor connects the resource components to a cluster service. The resource component includes a plurality of methods that are common to the resource components, and these methods are called by the resource monitor to control and monitor operation of the resource object through the resource component.

Short, et al. in column 4, lines 36 and 37, refers to a system administrator that configures any devices that are to be managed. This, however, is a reference to <u>configuring individual devices</u>. It is not a teaching of <u>configuring a cluster of resources</u> so as to find an optimal configuration, given a set of constraints and policies.

There is a very important, general difference between Short, et al. and the present invention. Specifically, Short et al. is directed to controlling and monitoring resources, while the present invention is directed to configuring resources.

This general difference is reflected in a number of more specific differences between Short, et al. and this invention. In particular, new independent Claims 21, 25 and 26 describe important features of the present invention that are not shown in or suggested by the prior art:

1.   Building globally optimal configurations;

2.   Determining their dynamic dependencies and configuration information such as load serving capacity and quality of service, cluster policies and changes thereof;

3.   Separating the networked resources, resource groups, cluster configurations into static and dynamically changing groups; and

4.   Taking a snapshot of the said groups only when needed.

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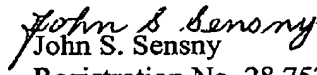G:\IBM\105\13731\amend\13731.AM4.doc

These features are of utility because, as explained in the present application, they help to achieve a high level of automation in the process of computing a globally optimal solution based on the constraints and the current state of the cluster.

The other references of record have been reviewed, and these other references, whether considered individually or in combination, also do not disclose or suggest these features of the present invention.

Because of the above-discussed differences between Claims 21, 24 and 25 and the prior art, and because of the advantages associated with these differences, it cannot be said that these claims are anticipated by or are obvious in view of the prior art. Accordingly, Claims 21, 24 and 25 patentably distinguish over the prior art and are allowable. Claims 22 and 23 are dependent from, and are allowable with, Claim 21.

Every effort has been made to place this application in condition for allowance, a notice of which is requested. If the Examiner believes that a telephone conference with Applicants' Attorneys would be advantageous to the disposition of this case, the Examiner is asked to telephone the undersigned.

Respectfully Submitted,

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